



Informative Educational Materials Available

The Minerals Management Service (MMS) announces the availability of posters, teacher's companions, classroom activities, and lesson plans. These instructional materials are free and can be obtained through the MMS Homepage <http://www.mms.gov>; select Kid's Page, or by contacting our regional offices.

Listed are just some of the materials available and more detailed information about ordering.

-NATIONAL-

"Ocean Energy" is a 20-page teacher's guide to the many energy resources in, over, and under the ocean. Teachers can use the background information, presentations, and hands-on activities to study both renewable and nonrenewable ocean energy resources. Topics discussed in this guide include petroleum and natural gas, oil and gas seeps, methane hydrates, solar energy, wind energy, wave energy and ocean thermal energy conversion, and relate to National Science Standards at the intermediate level.

"The Ocean's Sand, a Natural Resource" introduces students (grades 4-12) to the importance of offshore sand and gravel deposits to coastal communities. The lesson plan contains background information on beaches, the causes and effects of erosion, beach nourishment activities, and environmental challenges. Hands-on activities that illustrate the geological processes and characteristics of various beach environments are included.

Find these resources and many more at the MMS Kid's Page at www.mms.gov/mmskids. Learn how ocean drifters track ocean currents, find out what seawater is made of, and take an imaginary trip to an offshore oil rig by visiting the MMS Kid's page. All of the material is easy to download or order.

-GULF OF MEXICO-

"Gulf of Mexico Offshore Oases" highlights and describes various seafloor habitats that exist in the Gulf and the geology that drives them, as well as the abundant marine animals associated with these extraordinary ecosystems. The teacher's companion guides teachers and students through an astonishing colorful display and explanation of three specific topographic features and associated marine life, and offers information and activities developed for grades 6-12. The companion contains an extensive glossary of terms, word puzzles, taxonomic drills, and other suggested activities.

“Islands of Life” depicts many of the forms of animal marine life that grow on and around the thousands of oil and gas platforms in the Gulf of Mexico. The poster demonstrates that marine life and Federal offshore production not only coexist, but that the manmade offshore structures provide an artificial reef system that fosters and intensifies marine life in areas where it might not otherwise proliferate. A 23 page teacher’s companion to using the poster as part of a biological science curriculum explains the function of the platforms and the families of living things on and about them, and suggests classroom projects.



“Whales and Dolphins of the Gulf of Mexico” is for teachers who want to introduce their students of any age to some of the Gulf’s most fascinating inhabitants - cetaceans. Many people are surprised to learn that 28 of the 79 species of whales and dolphins occurring worldwide are found in the Gulf of Mexico. This poster has illustrations and descriptions of many of the whales and dolphins found in the Gulf of Mexico. While many people are familiar with the common bottlenose dolphin, people are amazed to discover that killer whales and sperm whales also call the Gulf home. The teacher’s companion provides basic biological information on the species that occur in the Gulf and describes governmental protection of these animals. Suggested activities for the classroom are included.

“Chemosynthetic Communities in the Gulf of Mexico” brings students to the floor of the Gulf to discover remarkable deep-sea animals that literally live on dissolved gases. These recently discovered chemosynthetic communities consist of tube worms and mussels that live in areas of natural oil and gas seepage. Within these organisms live symbiotic bacteria that convert methane and hydrogen sulfide into food. In this way, the tube worms and mussels provide a home for the bacteria, while the bacteria provide these animals with an energy supply. A teacher’s companion, which introduces the concept of chemosynthetics to students at the middle and high school levels, contains a glossary of terms, examples of different types of chemosynthetic communities, and a crossword puzzle.

“Geologic Secrets Revealed: The New Millennium in the Gulf of Mexico” focuses on the geoscientists’ search for energy resources, including oil, natural gas, and gas hydrates, on and deep below the seafloor of the Gulf of Mexico. This poster will help junior and senior high school students learn how drilling data, geophysical (seismic) data, and information gained through the study of tiny microfossils and nannofossils enable geoscientists to identify and explore for potential hydrocarbon traps many thousands of feet below the seafloor. Highlighted also are advancements in technology that increase our ability to explore for oil and gas in offshore areas that were previously inaccessible, both in terms of water depth and drilling depths below the seafloor.

“Chemistry in the Gulf of Mexico” is a poster designed to complement a basic chemistry class for grades 10-12. The poster encourages the viewer to understand the natural chemical processes that are occurring in the Gulf. These include precipitation of barite chimneys, dissolution of salt to form brine pools, and migration of oil and gas to form seeps and support life. The teacher’s companion expands on the processes shown in the poster and offers activities that can be applied directly in the classroom. Much of the information given in the poster was collected through funding of scientific research by MMS.

“Historic Shipwrecks of the Gulf of Mexico” is a teacher’s resource for the Sidewheel Steamship *Josephine* that could be used in classroom discussion about commerce, maritime transportation, technology, historic preservation of marine cultural resources, scientific investigative techniques and environmental issues.

The posters measure about 24" by 30" and the companions are in a three-hole-punched, loose-leaf format for easy reproduction and filing. They are available from the MMS Gulf of Mexico OCS Region, Public Information Office, 1201 Elmwood Park Blvd., New Orleans, Louisiana 70123. Telephone orders will be accepted at 1 800 200 GULF, or fax orders at (504) 736 2620, or through the Gulf of Mexico Region website at www.gomr.mms.gov/homepg/lagniapp/lagniapp.html. Because of limited quantities, we cannot accept bulk orders. For information or outreach opportunities, call Caryl Fagot (504) 736-2590.

-PACIFIC-

“I Feel the Earth Move under My Feet: Activities Illustrating Why and How Earthquakes Occur” is for teachers who want to introduce their students (grades 3-6) to the geologic processes that enable and cause earthquakes to occur. This lesson contains background on plate tectonics, earthquakes in southern California, and hands-on activities to illustrate folds, faults, mountain-building, wave energy, and geologic stress and strain. Resource and earthquake preparedness guides are also included in the lesson.

“Tidepool Math” investigates environmental change in California’s rocky shoreline habitat through this award-winning, math-based curriculum. Students “sample” photos of fixed intertidal photoplots to learn mathematic and scientific principles, while at the same time learn to appreciate rocky intertidal habitats, their fragility, and the need to protect and conserve this resource. The K-8 curriculum introduces students to scientific applications of counting and estimating. The high school curriculum introduces students to simple statistical concepts. Curricula, colorful flashcards and intertidal photos are available on one CD.

“Hidden Oases” discover diverse habitats found beneath oil and gas platforms offshore California! This two-sided educational poster is a colorful summation of three ongoing research projects on Pacific platforms conducted by the MMS and the University of California Santa Barbara. Students will learn how biologists are studying marine life living on and around these large man-made structures in the Pacific Ocean. The poster includes background on each research project and identifies the tools used by biologists to conduct their research.



These lesson plans are available from the MMS Pacific OCS Region, Public Affairs Office, 770 Paseo Camarillo, Camarillo, California 93010. Telephone orders will be accepted at 1 800 6PAC-OCS, or fax orders at (805) 389 7526, or the website at www.mms.gov/omm/pacific/kids/teachers.htm. For additional information or outreach opportunities, call John Romero (805) 389-7533.

-ALASKA-

“Just for Kids” is an activity book aimed at students in grades 1-4. The book contains a crossword puzzle about Alaska; a “Name the Animals of Alaska” quiz; “Find It,” a search for everyday items made from petroleum; a geology lesson; and the quiz “Which animal doesn’t live in Alaska?”

The booklet is available from the MMS Alaska OCS Region, 949 East 36th Avenue, Room 300, Anchorage, AK 99508-4363. It may be downloaded from the MMS Alaska homepage located at www.mms.gov/alaska/kids/index.htm. Telephone orders will be accepted at 1-800-764-2627, and fax orders at 907-271-6805. For additional information call Robin Cacy (907) 271-6070.



The Minerals Management Service is the federal agency in the U.S. Department of the Interior that manages the nation's oil, natural gas, and other mineral resources on the Outer Continental Shelf in Federal offshore waters. The agency also collects, accounts for, and disburses mineral revenues from Federal and American Indian lands. MMS disbursed more than \$8 billion in FY 2003 and more than \$135 billion since the agency was created in 1982. Nearly \$1 billion from those revenues go into the Land and Water Conservation Fund annually for the acquisition and development of state and Federal park and recreation lands.